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**Environmental Assessment
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**Onaqui Mountain Herd Management Area Fertility
Control**

Location: Townships 5 to 10 South, Range 5 to 9 West, various sections,
Tooele County, Utah

Applicant/Address: Not Applicable



Salt Lake Field Office
2370 South Decker Lake Boulevard
West Valley City, Utah 84119
Phone: (801) 977-4300
Fax: (801) 977-4397



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1 PURPOSE & NEED

1.1 Introduction

This Environmental Assessment (EA) has been prepared to disclose and analyze the environmental consequences of the Onaqui Mountain Herd Management Area (HMA) Fertility Control as proposed by the Bureau of Land Management (BLM) Salt Lake Field Office (SLFO).

This EA is a site-specific analysis of potential impacts that could result with the implementation of a proposed action or alternatives to the proposed action. The EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any “significant” impacts could result from the analyzed actions. “Significance” is defined by NEPA and is found in regulation 40 CFR 1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of “Finding of No Significant Impact” (FONSI). If the decision maker determines that this project has “significant” impacts following the analysis in the EA, then an EIS would be prepared for the project. If not, a Decision Record (DR) may be signed for the EA approving the selected alternative, whether the proposed action or another alternative. A DR, including a FONSI statement, documents the reasons why implementation of the selected alternative would not result in “significant” environmental impacts (effects) beyond those already addressed in Pony Express Resource Management Plan (January 1990), as amended.

1.2 Background

The SLFO proposes to treat mares within the Onaqui Herd Management Area (HMA) with the fertility control drug ZonaStat-H. This drug is federally approved by the Environmental Protection Agency (EPA) and registered under the number 86833-1. The analysis area is located in Townships 5 to 10 South, Range 5 to 9 West, various sections, SLBM, Tooele County, Utah (Map, Appendix B).

The management of the Onaqui HMA in the past has been to gather and remove horses. Released mares have been treated with fertility control drugs from the last three gathers (2005, 2009, and 2012). However, it has been only a small percentage of the mares on the range that were treated. There has been a reduced foaling rate following the treatments; however, it doesn't last the 3–4 years between gathers. It cost \$83,219.14 in 2012 to gather 155 head, remove 34 head and transport them to the holding facility in Delta, Utah. Gathers and removals alone will not address the fundamental problem, which is reproduction by horses remaining on the range.

1.3 Purpose and Need

The purpose of the Proposed Action is to consider a fertility control treatment program in order to maintain a population of 160 adult wild horses within the appropriate management level (AML) of 121–210 wild horses. The purpose is also to stabilize the population in order to reduce the need for larger helicopter gather and removal operations. The Proposed Action in this EA considers the BLM's need to help maintain wild horse herd numbers to levels consistent with the AML and to make progress towards achieving standards of rangeland health. The need for the Proposed Action is to maintain the population in a thriving natural ecological balance by maintaining the wild horse population within the AML and to analyze the impacts to the wild horses from utilization of fertility control.

The BLM will decide whether or not to apply fertility control to select mares on the Onaqui HMA through 2020 (or as long as we can reasonably conclude that no new information and no new circumstances have substantially changed in the area of analysis) in order to help maintain the AML of 121–210 wild horses through remote darting application utilizing ZonaStat-H which is liquid native Porcine Zona Pellucida (PZP) into selected mares over one year of age.

1.4 Conformance with BLM Land Use Plan(s)

The alternatives have been reviewed to determine if they conform to the land use plan goals and objectives as required by 43 CFR 1610.5. Although it is not specified, the alternatives described in this EA conform to the Record of Decision (ROD) for the Pony Express RMP (1990), as amended, under the Wild Horse Program, Decision 1 (Manage Herd Size).

The alternatives are also consistent with the Pony Express RMP decisions related to the management of the following resources, including but not limited to: recreation, air quality, soil, water, visual resources, cultural resources and wildlife management.

SLFO's herd management objective balances healthy population of wild horses and improvements in range condition, wildlife habitat, and watershed condition.

1.5 Relationship to Statutes, Regulations, or Other Plans

The project is consistent with Federal environmental laws and regulations, Executive Orders (EO), and Department of Interior and BLM policies. It is in compliance with state laws and local and county ordinances and plans to the maximum extent possible.

In addition, the following laws, regulations, EOs and instruction memorandum (IM) provide the foundation for managing resources on the public lands:

Wild Free-Roaming Horses and Burros Act of 1971, (Public Law 92–195 as amended), and with all applicable regulations at 43 CFR (Code of Federal Regulations) 4700, and policies outlined by BLM.

The Wild Free-Roaming Horses and Burros Act of 1971, (P. L. 92–195) as amended, Section 1333 (b) (1), states the Secretary of the Interior shall “determine appropriate management levels of wild free-roaming horses and

burros on areas of public lands; and determine whether appropriate management levels should be achieved by the removal or destruction of excess animals, or other options (such as sterilization or natural controls on population levels).” According to 43 CFR 4700.0–6, “Wild horses shall be managed as self-sustaining populations of healthy animals in balance with other uses and the productive capacity of their habitat.”

Other EISs and EAs that influence the scope of this document include:

- Proposed Pony Express RMP and Final EIS (9/1988)
- Draft Pony Express RMP and Draft EIS (5/1988)
- Onaqui Mountain Wild Horse Gather (7/2005)
- Cedar Mountain and Onaqui Mountain Wild Horse Herd Management Areas Capture, Treat and Release Plan Fertility Control with Limited Removal (1/2012)

Other Management Plans that influence the scope of this document include:

- Tooele County Master Plan, as revised

These documents and their associated information and analyses are hereby incorporated by reference, based on their use and consideration by various authors of this document. The attached Interdisciplinary Team Checklist, Appendix A was developed after consideration of these documents and their content.

1.6 Identification of Issues

The proposed action was reviewed by an interdisciplinary team composed of resource specialists from the SLFO. This team identified resources within the Onaqui HMA which might be affected and considered potential impacts using current office records and geographic information system (GIS) data. The result of the review is contained in the Interdisciplinary Team Checklist, Appendix A.

On June 6, 2014, the SLFO posted the proposed action on the Utah BLM Environmental Notification Bulletin Board (ENBB)¹ and solicited input and feedback concerning the project in a 30 day scoping period.

Two letters were received within the 30 scoping period. One letter was from Iron County the other from State of Utah Public Lands Policy Coordination Office. Both are in support of the proposal and managing wild horses on the range within AML.

Issues that will be carried forward for analysis and identified through the process described above include the following:

- Impacts to individual wild horses and the herd. Measurement indicators for this issue include:
 - Expected impacts to individual mares from darting stress.

¹ The ENBB is a BLM webpage that that is available for public use to review current projects. It can be accessed online at: <https://www.blm.gov/ut/enbb/index.php>. Search by Salt Lake Field Office, environmental assessments and the Onaqui Mountain HMA Fertility Control entry.

- Expected impacts to herd social structure.
- Expected effectiveness of proposed fertility control application.
- Potential effects to genetic diversity.
- Potential impacts to animal health and condition.

1.7 Issues Considered but Eliminated from Further Analysis

Many resources and their uses were considered by the interdisciplinary team and this review is documented in the checklist in Appendix A. Where resources are not present (NP) (not present in the area impacted by the proposed or alternative actions) or not impacted (NI) (present, but not affected to a degree that detailed analysis is required), a rationale for not considering them further is provided in the checklist.

1.8 Summary

This chapter has presented the purpose and need of the proposed project, as well as the relevant issues, i.e., those elements of the human environment that could be affected by the implementation of the proposed project. In order to meet the purpose and need of the proposed project in a way that resolves the issues, the BLM has considered and/or developed a range of action alternatives. These alternatives are presented in Chapter 2. The potential environmental impacts or consequences resulting from the implementation of each alternative considered in detail are analyzed in Chapter 4 for each of the identified issues.

2 DESCRIPTION OF ALTERNATIVES

2.1 Introduction

The alternatives discussed in this section are: Alternative A – Proposed Action (Conduct Fertility Control with Management Requirements) and Alternative B – No Action (Do Not Conduct Fertility Control Measures).

There were no other alternatives suggested by the public during the scoping period or identified by the SLFO interdisciplinary team. Other alternatives were not considered because the issues identified during scoping did not indicate a need for additional alternatives or protective measures beyond those contained in the Proposed Action. The No Action is considered and analyzed to provide a baseline for comparison of the impacts of the Proposed Action.

2.2 Alternative A – Proposed Action

The BLM SLFO proposes to apply fertility control to select mares on the Onaqui HMA through 2020 (or as long as it can be reasonably concluded that no new information and no new circumstances have substantially changed in the area of analysis) in order to help maintain a population of 160 adult wild horses which is within the AML range of 121–210 adult wild horses. The fertility control would involve the use of PZP, single dose inoculations and the delivery system would be through the use of dart guns. The proposed action would consist of the administration of remote darting of PZP applied in the one year liquid dose and would start in 2015. The primary window for treatment would be November through February, although previously treated mares could receive a booster any time of the year. If it is determined that a mare or mares cannot be approached within darting range on foot, then baiting would be utilized. The expectations for the proposed action include: the short-term goal is to bring growth rates to less than seven percent and the long-term goal is to reduce the need for gathers and removals, without jeopardizing the genetic health of the herd.

The Proposed Action incorporates the following additional actions and management requirements:

Fertility control treatment would be conducted in accordance with the approved standard operating and post-treatment monitoring procedures (SOP's, Appendix C).

In about late March to early April of 2015, mares that are one year of age would receive a primer inoculation of PZP and 30–60 days following that treatment would receive a booster dose of PZP then be treated annually with single dose of one-year PZP for no more than five (5) consecutive years.

To ensure that the genetic diversity of the herd is maintained: After year 5, there would be no further application of PZP until the (approximately 6 year old) mare produces a live foal. Once the mare has foaled, she would then be treated annually for the remainder of her natural life.

Once the PZP field darting treatment protocol is implemented fully, approximately two to three years after initiation, manpower and time involved would decrease. Field darting would be conducted in an opportunistic manner while the specialist is conducting routine monitoring activities as part of normal duties in the field. Ordinarily, field

darting activities would be conducted on foot. Access throughout the HMA would be achieved by the use of 4X4 vehicles and other off-highway vehicles (OHVs). Vehicles would be utilized on existing roads and trails in the portions of the HMA that are not covered by a travel management plan. In the portion of the HMA that is covered by the travel management plan, vehicles would be limited to designated roads and trails. On a case-by-case basis, the use of off-highway vehicles in closed areas may be allowed for certain reasons; however, such use shall be made only with the approval of the authorized officer in accordance with the travel management plan.

Personnel authorized for field darting of the Onaqui horses must be trained for this task and certified by the Science and Conservation Center at Zoo Montana. Additionally, all work would be carried out under the provisions stated here and in the SOP's in Appendix C.

The BLM National Wild Horse and Burro Program Office would order the PZP vaccine which is then prepared and shipped to the Salt Lake Field Office by the Science and Conservation Center at Zoo Montana, in Billings, Montana. Each dose would consist of 100 micrograms of PZP in 0.5 cc buffer. Mixing of the vaccine would be accomplished as described in the Wild Horse Contraceptive Training Manual (see mixing procedures in Appendix D). Remote application would be by means of 1.0 cc Pneu-dart darts, with either 1.25 or 1.5 inch barbless needles, delivered by either Dan-inject or Pneu-dart CO2 powered or cartridge fired guns. An attempt would be made to recover all darts (normally about a 98% recovery is expected).

2.2.1 Horse Identification

The treated mares would be individually marked and/or be individually recognizable without error. Additional identification is done by color, face, leg, and coat pattern markings. A photo database would be completed, as well as, individual identification photos would be compiled into books that can be taken to the field. A number of the horses have a hip brand as well as neck brands from previous PZP treatments to help in the identification of the horses.

2.2.2 Record Keeping

All darting records, foaling data, and health data would be recorded as per the data sheet (Appendix E). Data sheets would be maintained in the Salt Lake Field Office. Copies would be sent to the BLM National WH&B Program Office in Reno and to the Science and Conservation Center (SCC) in Billings, Montana.

2.2.3 Regulatory Authorization

The liquid PZP vaccine, known as ZonaStat - H is federally approved by the EPA registration number 86833-1. Training is required by the SCC to receive or administer PZP to horses.

2.3 Alternative B – No Action

Under the No Action Alternative, one-year PZP would not be remotely applied to wild horse mares in the Onaqui HMA. A plan to gather and to apply fertility control would be evaluated and implemented at a later time. The BLM would continue vegetation and population monitoring.

2.4 Alternatives Considered, but Eliminated from Further Analysis

2.4.1 Helicopter Capture, Treat and Release Wild Horses

Under this alternative, the BLM would implement a helicopter gather and capture as much of the population as possible to selectively remove excess wild horses and apply two-year fertility control (PZP-22) to mares identified for release. This would immediately reduce the herd size to about 160–175 adult horses and treat about 65–70 mares. This alternative was considered but eliminated from further analysis because it would result in greater disturbance to individual wild horses and the herd than the Proposed Action. It is also estimated to be substantially more expensive to implement.

2.4.2 Bait Trapping with Selective Removal

Under this alternative, the SLFO considered analyzing future use of bait trapping to remove selected animals. This would have helped control the population numbers. This was eliminated because at this time it may be several years before we could do any bait trapping. This was based on the current space limitations in both short and long term holding facilities.

2.5 Summary

This chapter has described the range of action alternatives. The potential environmental impacts or consequences resulting from the implementation of each alternative considered in detail are analyzed in Chapter 4 for each of the identified issues.

3 AFFECTED ENVIRONMENT

3.1 Introduction

This chapter presents the potentially affected existing environment (i.e., the physical, biological, social, and economic values and resources) of the impact area as identified in the Interdisciplinary Team Checklist found in Appendix A and presented in Chapter 1 of this assessment. This chapter provides the baseline for comparison of impacts/consequences described in Chapter 4.

3.2 General Setting

As presented in the Interdisciplinary Team Checklist (Appendix A), only those resources or uses that have been identified as a potential impact are carried forward for detailed analysis. Resources that are not present or would not be impacted to a degree that requires detailed analysis are described in the Checklist.

3.3 Wild Horses

The 2012 Cedar Mountain and Onaqui Mountain Wild Horse Herd Management Areas Capture, Treat and Release Plan Fertility Control with Limited Removal identified and analyzed the effects to the environment and are incorporated by reference. For a complete description of the affected environment and environmental consequences, see pages 14–22 of the EA.²

In 2005, there were 256 horses gathered of those 97 were released and 56 were mares that received PZP–22. This left an estimated population of one hundred twenty-five (125) horses in the HMA.

In 2009, there were 218 horses gathered of those 34 were released and 14 were mares treated with PZP–22. Three older mares were released untreated due to loss of vaccine while mixing. Nine of the mares were treated for the second time and five were new mares added to the treatment program. The estimated post gather population was one hundred twenty-four (124).

In 2012, one hundred fifty-five horses (155) were gathered. Fifty-seven (57) mares were treated with PZP–22. Twenty-two of those mares had received treatment in either 2005 or 2009. Thirty-five of the mares were treated for the first time. There was an estimated post gather population of one hundred seventy-nine horses (179).

There are five (5) mares that have been treated all three times. Thirteen (13) mares were treated in 2005 and again in 2012. Four (4) mares were treated in 2009 and again in 2012.

Recent research indicates that, normally using the standard two-inoculation protocol, efficacy in wild horses is about 95% (Kirkpatrick and Turner 2008). Reversal of contraceptive effects depends on the number of years of consecutive treatment. For example, mares treated for three consecutive years have a average time of 3.7 years to

² The EA can be found at:

http://www.blm.gov/style/medialib/blm/ut/natural_resources/wild_horses_and_burros/cedar_onaqui.Par.87472.File.dat/FinalEA.pdf

return to fertility, but the range is 1– 8 years (Kirkpatrick and Turner 2002). The same study demonstrated that mares treated from one to five consecutive years returned to fertility, but mares treated for seven consecutive years did not. There could be some differences seen with the Onaqui horses as they have received the experimental drug PZP -22 and the mares in the study on Assateague Island have been given just the liquid form or ZonaStat–H.

From the treatment in February 2012, we did see a reduction in the number of foals born in 2013 as expected. We estimated that the growth rate for the population was 7 percent opposed to 16–20 percent seen before any treatment or in years after the mares returned to fertility.

4 ENVIRONMENTAL IMPACTS

4.1 Introduction

The potential consequences or effects of each alternative are discussed in this section. The intent is to provide the scientific and analytical basis for comparison of the effect of each alternative.

4.2 General Analysis Assumptions and Guidelines

In accordance with 40 CFR 1502.24, this impact analysis assumes that a 100 percent treatment rate would be attained for identified mares. Liquid dose PZP is at least 95% effective in most herds. The SOP's in Appendix C, for use and application of PZP are incorporated as part of the proposed action. Impacts to the wild horses take the form of direct and indirect impacts and may occur on either the individual or the population as a whole.

The proposed action and alternatives incorporate proven standard operating procedures (Appendix C) which represent the "best methods" for ensuring quality results, minimizing risks and reducing impacts associated with this activity. All activity would be carried out according to current BLM policy with the intent of conducting as safe and humane an operation as possible. Protocols have been specifically developed for remote-delivery techniques of the fertility control vaccine.

4.3 Direct and Indirect Impacts

Direct effects are caused by the action and occur at the same time and place. Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.

4.3.1 Alternative A – Proposed Action

4.3.1.1 Wild Horses

The immune-contraceptive PZP vaccine meets most of the requirements for an ideal contraceptive agent including criteria for safety and efficacy. When injected, PZP vaccine acts as an antigen and causes the mare's immune system to produce antibodies. These antibodies then bind to eggs in the mare's ovaries and effectively block sperm binding and fertilization (ZooMontana 2000). The vaccine is relatively inexpensive and can be remotely administered in the field. Research has demonstrated that contraceptive efficacy is 95% for mares treated twice in the first year and boosted annually (Turner and Kirkpatrick 2002). Contracepted mares sometimes show improvements in body condition and may actually live longer (Turner and Kirkpatrick 2002).

Safety of the contraceptive agent is an important consideration. The agent to be used in the Onaqui Mountain HMA is liquid, one-year PZP and has been studied and applied to wild horses for 21 years. The vaccine's contraceptive effects are reversible, if used no more than five consecutive years (Kirkpatrick and Turner 2002). The PZP vaccine is safe to use in pregnant mares: it would not affect the health or survival of foals that were in utero when the mother was treated (Turner and Kirkpatrick 2002). This is important consideration given the 340 day gestation period of horses and the likelihood that some pregnant animals would be treated in the course of management.

The liquid, one-year PZP vaccine has not been found to affect seasonal birth patterns among treated animals, or the survival of offspring born to mares previously treated at Assateague Island National Seashore (Kirkpatrick and Turner 2003). A recent study of behavioral effects, conducted on Cape Lookout National Seashore in North Carolina, indicated there was an increase in mare movement between bands during the non-reproductive season (Nunez *et al.* 2009). However, the control group for this study was a group of untreated mares whose foals were captured and removed annually, thus there was no way to separate the effects of the gather and removal from the PZP treatment.

Direct individual impacts are those impacts that are immediately associated with implementation of the proposed action. These impacts include stress associated with the remote-darting activity for delivery of the vaccine. The intensity of these impacts varies by individual and is indicated by behaviors ranging from nervous agitation to physical distress. Impacts to individual mares from application of PZP (granulomas, nodules) would be monitored on a regular basis.

Both short and long-term effects of immune-contraception are important considerations. Other than occasional injection site reactions, no deleterious short-term health effects have been noted. Among wild horses on Assateague Island National Seashore (AINS), only three abscesses appeared after 381 treatments (0.007%). In another study, 60 wild mares receiving the standard two-inoculation protocol of PZP followed by a booster inoculation and observed in captivity for one month did not form a single abscess. Among zoo animal treated with PZP, 1,185 treatments with either darts or hand injections resulted in a total of 16 abscesses (0.013%) (Lyda *et al.* 2005). In another study of injection site reactions in wild horses, nodules occurred in about 25% of the mares inoculated by dart in two herds, abscesses were too infrequent to allow meaningful analysis of the relation between covariates and the rate of abscess formation (Roelle and Ransom 2009). In all cases the abscesses were not a health threat and they resolved themselves within a few weeks.

Population-wide direct impacts are immediate effects which would occur during or immediately following implementation of the proposed action or alternatives. Remote-delivery of the fertility control vaccine would result in fewer disturbances to the herd and support a minimum feasible level of management. Direct population-wide impacts might consist of a heightened awareness of human presence following the darting activity. This is likely to be temporary in nature but may persist for some time in some mares.

To ensure the genetic diversity of the herd, the Salt Lake Field Office in 2005 released approximately 10 stallions and 10-15 mares from other HMA's outside the state and from within the state. Since the large release in 2005, we have every 3-4 years released another 3-5 horses into the HMA.

4.3.1.2 Protective Measures

The presence of abscesses should be minimized when utilizing the SOPs (Appendix C). In order to mitigate the impacts of fertility control, all vaccine would be controlled, handled and administered by trained, certified and experienced darters. These personnel would be on-site during all phases of the operation, and would be responsible for the accurate identification of individual age-specific mares.

4.3.1.3 Residual Impacts

Indirect individual impacts are those impacts that occur after the initial stress event and may develop as a result of the application of fertility control vaccine. Impacts that may occur include increased social disorder among the horses and/or a prolonged foaling season. However, personal observations (by the SLFO Wild Horse Specialist) of the foaling season within the Onaqui Mountain over the last 10 years have shown the mares foaled in February through November. Impacts may also result in an opportunity for increased fitness and body condition in treated mares.

Mares on liquid, one-year PZP-treatment had improved body condition scores, decreased herd and foal mortality, and substantially increased longevity (Turner and Kirkpatrick 2002; Kirkpatrick and Turner 2007). Previous studies revealed no large changes in the estrous behavior or reproductive endocrine parameters (Kirkpatrick *et al.* 1992, 1995). However, Nunez *et al.* (2010) found increased estrous behavior among treated mares out of breeding season. Ransom *et al.* (2010) found increased reproductive behaviors among treated mares during breeding seasons in different populations.

Ransom *et al.* (2010) found no differences in how PZP-treated and control mares allocated their time between feeding, resting, travel, maintenance, and social behaviors in 3 populations of wild horses, which is consistent with Powell's (1999) findings in another population. Likewise, body condition of PZP-treated and control mares did not differ between treatment groups in Ransom *et al.*'s (2010) study. Turner and Kirkpatrick (2002) found that PZP-treated mares had higher body condition than control mares in another population, presumably because energy expenditure was reduced by the absence of pregnancy and lactation.

In two studies involving a total of 4 wild horse populations, both Nunez *et al.* (2009) and Ransom *et al.* (2010) found that PZP-treated mares were involved in reproductive interactions with stallions more often than control mares, which is not surprising given the evidence that PZP-treated females of other mammal species can regularly demonstrate estrus behavior while contracepted (Shumake and Wilhelm 1995; Heilmann *et al.* 1998; Curtis *et al.* 2002). Ransom *et al.* (2010) found that control mares were herded by stallions more frequently than PZP-treated mares, and Nunez *et al.* (2009) found that PZP-treated mares exhibited higher infidelity to their band stallion during the non-breeding season than control mares. Madosky *et al.* (2010) found this infidelity was also evident during the breeding season in the same population that Nunez *et al.* (2009) studied, resulting in PZP-treated mares changing bands more frequently than control mares. We think that treated mares have more reproductive interactions and change bands in an effort to become pregnant.

Aggression between stallions and mares has also been studied in 3 wild horse populations and no difference was found between the treatment groups (Ransom *et al.* 2010). Harem tending by stallions, such as urine and fecal covering of mare excretion and active defense of mares against other stallions, was best explained by a model of mare body condition in the Ransom *et al.* (2010) study. Stallions in this study tended higher condition mares more frequently than lower condition mares.

Lastly, because PZP is a naturally occurring pig protein, it degrades quickly in the environment. If eaten, it is digested like any other protein and the vaccine cannot pass

through the food chain, thus negating any environmental effects (Kirkpatrick *et al.* 2006).

4.3.1.4 Monitoring and/or Compliance

Proven mitigation and monitoring are incorporated into the proposed action and also through standard operating procedures (SOPs), which have been developed over time. These SOPs (Appendix C) represent the best methods for reducing impacts associated with remote application of PZP and collecting herd data.

The Horse Immunocontraception Data Sheet (Appendix E) also tracks individual mares number/name, color, other markings/brands, inoculation dates & doses, delivery systems, sites, reproductive history, and health issues.

4.3.2 Alternative B – No Action

4.3.2.1 Wild Horses

There would not be any stress on mares from the darting. There wouldn't be a chance of any abscesses or granulomas. The herd social structure will be the same as it is now. We will not reduce the population growth of the herd. It would stay between 16–20 % instead of reducing it to around 7 % or less. No possible impacts to the genetic diversity of the herd as all horse would have a chance to reproduce.

4.3.2.2 Protective Measures

No special protective measures would be put in place. SLFO would continue to monitor horse condition, horse population, and utilization of the range.

4.3.2.3 Residual Impacts

The health and condition of the horses would stay about the same as it is without any fertility control treatment. Any young or old mares that have foals would be expected to be in poorer body condition than if they had received treatment.

4.3.2.4 Monitoring and/or Compliance

There would be no special monitoring or compliance needed.

4.4 Cumulative Impacts Analysis

Cumulative impacts are those impacts resulting from the incremental impact of an action when added to other past, present, or reasonably foreseeable actions regardless of what agency or person undertakes such other actions.

4.4.1 Wild Horses

Past or ongoing actions that affect the same components of the environment as the proposed action are: past, present and future wild horse selective removals, fertility control treatments, natural mortality including variable predation, disturbance due to recreation and hunting, and increased or decreased size and quality of rangeland available for wild horse use. BLM would identify these impacts as they occur and mitigate them as needed on a project specific basis to maintain a thriving natural ecological balance and maintain acceptable levels of herd health. The Proposed Action would contribute to the cumulative impacts of future actions by maintaining the wild horse population near the mid-point of AML. Monitoring and management actions

would establish a process whereby biological and/or genetic issues would be identified and resolved over time.

Due to the relatively long time between generations (~10 years) and the long reproductive lifespan of individual horses, the loss of genetic material from the herd would be relatively slow and could be monitored and mitigated by management. There would be minimal impact to herd genetic diversity by restricting first time births to later in a mares life and reducing the lifetime contribution of older mares.

Past actions that have affected the genetic diversity of the herd are: from 2005 to 2011 the SLFO has released horses from other HMA's to ensure the genetic diversity of the herd is not lost and/or increased. In 2005 there were approximately 10 stallions and 15 mares released. Since then we have also released 3–5 mares every 3–4 years. The released horses came from other states as well as other HMA's within Utah.

In the future SLFO would be proposing to do selective removals with bait trapping. While doing the bait trapping we may gather horses that we don't want to remove. Salt Lake Field Office staff will be on site to determine if the horses caught in the trap should be removed or not. For mares that it is determined they will be released back onto the HMA and they have either not been treated because we are unable to get into range or if they are due for a booster. That treatment will be done before being released.

5 CONSULTATION AND COORDINATION

5.1 Introduction

The issue identification section of Chapter 1 identifies those issues analyzed in detail in Chapter 4. The ID Team Checklist provides the rationale for issues that were considered but not analyzed further. The issues were identified through the public and agency involvement process described in sections 5.2 and 5.3 below.

5.2 Persons, Groups, and Agencies Consulted

Persons, agencies and organizations that were consulted with during this EA are identified in Table 1.

Table 1 People, agencies and organizations consulted.

Name	Purpose and Authorities for Consultation or Coordination	Findings and Conclusions
Public Land Policy Coordination Office	Coordination as per BLM letter to PLPCO, November 9, 2012 regarding the process for notifying the State of Utah of projects that occurs within GRSG habitat.	A coordination email was sent to PLPCO regarding the proposed action. A letter was received July 1, 2014 in support of the proposed action.
Confederated Tribes of the Goshute Reservation, Skull Valley Band of the Goshute Tribe, Paiute Tribe, and Ute Indian Tribe	Consultation as required by the American Indian Religious Freedom Act of 1978 (42 USC 1996) and NHPA (16 USC 470).	The following Tribes were consulted via certified letter on 5/16/2014: Confederated Tribes of the Goshute Reservation, Skull Valley Band of the Goshute Tribe, Paiute Tribe, and Ute Indian Tribe. No comments were received by any of these tribes.

5.3 Preparers

An interdisciplinary team prepared the document and analyzed the impact alternatives on the various resources (Table 2).

Table 2 List of preparers.

Name	Title	Responsible for the Following Section(s) of this Document
Tami Howell	Wild Horse Specialist	Wild Horses, Project Lead
Chris Bryan	Wildlife Biologist	Wildlife Habitat
Ray Kelsey	Outdoor Recreation Planner	Recreation/National Historic Trails
Mike Sheehan	Archaeologist	Cultural, Archaeological Clearance
Pamela Schuller	Planning & Environmental Specialist	NEPA Compliance

Refer also to the specialists identified in the Interdisciplinary Team Checklist (Appendix A).

5.4 Public Participation

As part of the preparation of this document and the NEPA process, the SLFO conducted Public/Agency Scoping (6/2/14–7/2/14). There were two comments received during the scoping period.

Section 1.6, Identification of Issues, of this EA, describes the public participation process used to identify the issues that are analyzed. The public participation process included a notification posted on the ENBB (<https://www.blm.gov/ut/enbb>) on June 2, 2014 and 30 day scoping period. SLFO did receive scoping comments or inquiries from the public.

The SLFO utilized and coordinated the NEPA public participation requirements to assist the agency in satisfying the public involvement requirements under Section 106 of the National Historic Preservation Act (NHPA) (16 U.S.C. 470(f) pursuant to 36 CFR 800.2(d) (3). The information about historic and cultural resources within the area potentially affected by the proposed project/action/approval will assist the BLM in identifying and evaluating impacts to such resources in the context of both NEPA and Section 106 of the NHPA. The BLM consulted with Indian tribes on a government-to-government basis in accordance with Executive Order 13175 and other policies, if requested by any Tribe. If Tribal concerns are identified, including impacts on Indian trust assets and potential impacts to cultural resources, they will be given due consideration. Federal, State, and local agencies, along with tribes and other stakeholders that may be interested in or affected by the proposed project/action/approval were invited to participate in the scoping process.

5.4.1 Summary of Public Comment Period

(Reserved)

SLFO will offer a 15 day comment period on the EA.

5.5 Summary

This chapter has summarized the consultation, and coordination used in preparing this EA.

6 REFERENCES AND APPENDICES

6.1 References Cited

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6.2 Appendices

- A. Interdisciplinary Team Checklist
- B. Map
- C. Standard Operating and Post-Treatment Monitoring Procedures
- D. PZP Mixing Procedures
- E. Data Sheet

Appendix A: Interdisciplinary Team Checklist

Project Title: Onaqui Mountain HMA Fertility Control

NEPA Log Number: DOI-BLM-UT-W010-2014-0021-EA

File/Serial Number: Not Applicable

Project Leader: Tami Howell

DETERMINATION OF STAFF:

NP = not present in the area impacted by the proposed or alternative actions

NI = present, but not affected to a degree that detailed analysis is required

PI = present with potential for relevant impact that need to be analyzed in detail in the EA

NC = (DNAs only) actions and impacts not changed from those disclosed in the existing NEPA documents cited in Section D of the DNA form. The Rationale column may include NI and NP discussions.

Resources and issues considered (includes supplemental authorities Appendix 1 h-1790-1).

Determination	Resource	Rationale for Determination	Signature	Date
NI	Air Quality	The project is small scale and would not conflict with Utah's Dept. of Air Quality's (DAQ) State Implementation Plan (SIP); National Ambient Air Quality Standards (NAAQS) would not be exceeded. The project area is located within an attainment airshed. Emissions from vehicle traffic and fugitive dust could affect air quality in the local area while vehicle are being used in association with fertility control efforts. The proposed action would have no impact on Air Quality.	/s/ Pamela Schuller	10/24/14
NP	Areas of Critical Environmental Concern	There are no ACECs within the project area.	/s/ Pamela Schuller	10/24/14
NP	Cultural Resources	Class III Inventory not required for this project.	/s/ M. Sheehan	10/23/14
NI	Environmental Justice	As defined in EO 12898, minority, low income populations and disadvantaged groups may be present within the project area. The project would not cause any disproportionately high and adverse effects on minority or low income populations. Visitors to the area would still be able to view wildhorses.	/s/ Pamela Schuller	10/24/14
NP	Farmlands (Prime or Unique)	Prime or unique farmlands may be present in the project area. However, the proposed action does not call for irrigation or other soil management actions.	/s/ Dylan Tucker	10/22/14
NP	Fish Habitat	There are no streams in the project area that support fish.	/s/ Chris Bryan	10/22/14

Determination	Resource	Rationale for Determination	Signature	Date
NI	Floodplains	Floodplains, as defined by EO 11988, FEMA, HUD, Corps of Engineers and the LUP, are not present. The project would not affect a county's ability to obtain and/or maintain Federal flood insurance.	/s/ Dylan Tucker	10/22/14
NI	Fuels/Fire Management	The proposed action would have no impact on fire and fuels management.	/s/ Brad Jessop	9/16/14
NI	Geology / Mineral Resources/Energy Production	The proposed action would not affect any potential mineral resources or potential energy production.	/s/Larry Garahana	10/23/14
NI	Greenhouse Gas Emissions	No standards have been set by EPA or other regulatory agencies for greenhouse gases. In addition, the assessment of greenhouse gas emissions and their impacts on climate change is still in its earliest stages of formulation. Global scientific models are inconsistent, and regional or local scientific models are lacking so that it is not technically feasible to determine the net impacts to climate due to greenhouse gas emissions. It is anticipated that greenhouse gas emissions associated with this action and its alternative(s) would be negligible.	/s/ Pamela Schuller	10/24/14
NI	Invasive Species/Noxious Weeds (EO 13112)	The proposed action would have no impact on Invasive Species/Noxious Weeds. A PUP would not be required.	/s/ Anthony VonNiederhausen	8/26/14
NI	Lands/Access	In order for the proposed action to remain an NI, access with motorized vehicles should be kept to existing roads.	/s/ Mary Higgins	10/28/14
NI	Livestock Grazing	No impact to livestock grazing would occur from this action. Changes to grazing permits are not warranted.	/s/ Dylan Tucker	10/23/14
NI	Migratory Birds	While migratory birds are present in the area, the proposed action would have no impact on nesting or breeding habitats.	/s/ Chris Bryan	10/23/14
NI	National Historic Trails	No impact to Pony Express NHT resources. Proposed actions would be localized and temporary.	/s/ Ray Kelsey	9/9/14
NI	Native American Religious Concerns	The following Tribes were sent project information via certified letter on May 16, 2014: Confederated Tribes of the Goshute Reservation, Skull Valley Band of the Goshute Tribe, Paiute Tribe, and Ute Indian Tribe. No comments or concerns were expressed by the tribes.	/s/ Pamela Schuller	10/24/14

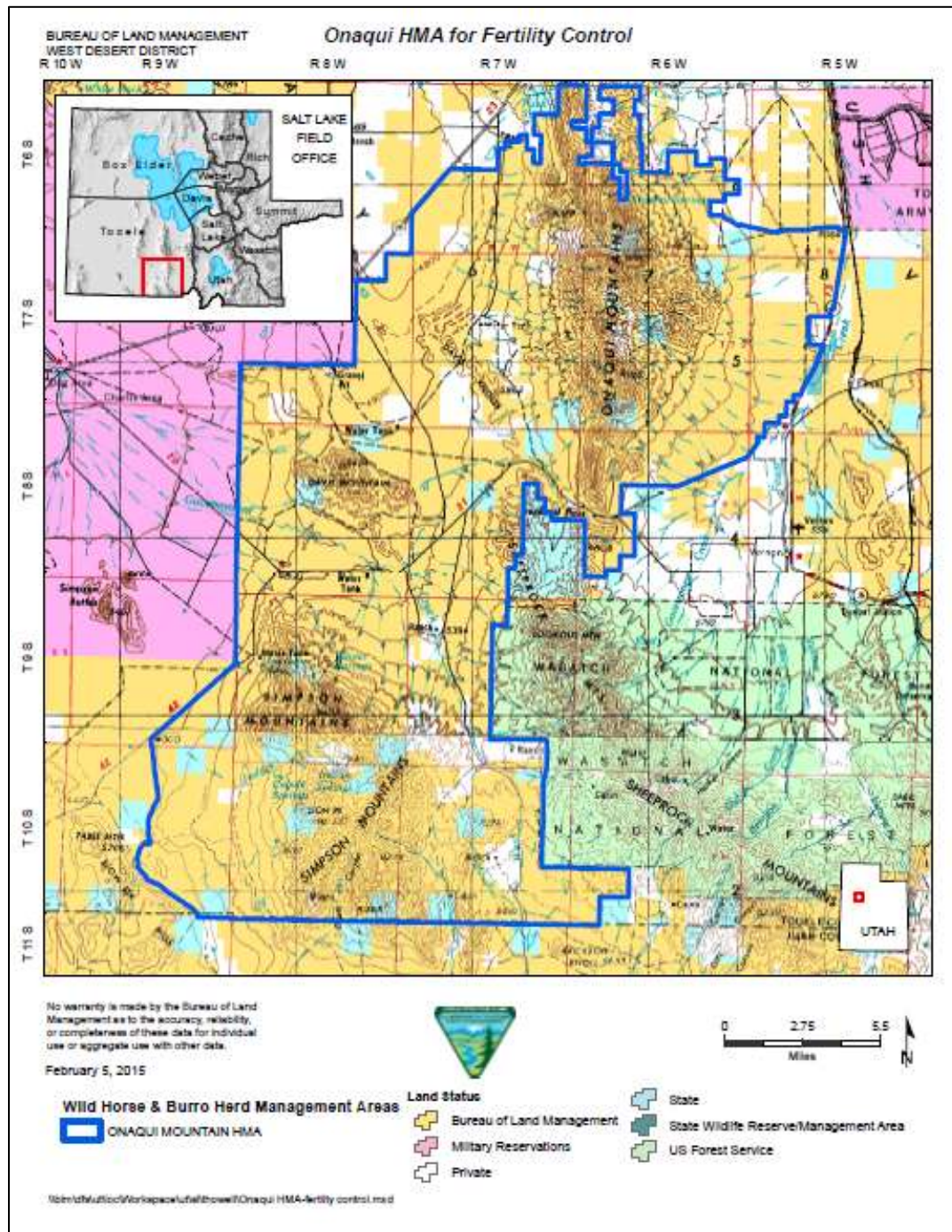
Determination	Resource	Rationale for Determination	Signature	Date
NP	Paleontology	There are no known significant paleontological resources within the proposed area; therefore, the proposed action would not affect any paleontological resources. The action is not surface disturbing.	/s/Larry Garahana	10/23/14
NI	Property Boundary Evaluation	The project would have no effect on property boundaries. Some townships in this area are unsurveyed, however, cadastral field surveys are not required for administering fertility control measures.	/s/ Pamela Schuller	10/24/14
NI	Rangeland Health Standards	No impact to rangeland health would occur from this action. The action is not surface disturbing.	/s/ Dylan Tucker	10/23/14
NI	Recreation	No impact to recreation resources, opportunities, or experiences in the project area. Proposed activities would be localized and temporary.	/s/ Ray Kelsey	9/9/14
NI	Sage Grouse Habitat	No impact to sage grouse habitat would occur from the fertility control drug application activity.	/s/ Chris Bryan	10/22/14
NI	Socio-Economics	No quantifiable additional or decreased economic impact to the local area would be caused by the proposed action. Wildhorses would still be present and the public would still have viewing opportunities.	/s/ Pamela Schuller	10/24/14
NI	Soils	Surface disturbing activity is not proposed. No impact to soils would occur from this action.	/s/ Dylan Tucker	10/23/14
NI	Threatened, Endangered, Candidate or Special Status Plant Species	Listed species are not present. No impact to Threatened, Endangered, Candidate or Special Status Plant Species would occur from this action. Darting individual mares has no possibility of affecting plants.	/s/Rodd Hardy	10/24/14
NI	Threatened, Endangered, Candidate or Special Status Animal Species	Listed species are not present. No impact to Threatened, Endangered, Candidate or Special Status Animal Species would occur from this action. Only wildhorses would be targeted at trap sites and darted.	/s/ Chris Bryan	10/22/14
NI	Vegetation Excluding Special Status Species	No impact to the vegetation would be expected to occur to the vegetation. Activity is not surface disturbing.	/s/ Dylan Tucker	10/23/14
NI	Visual Resources	No new surface disturbances would be caused by the proposed action.	/s/ Ray Kelsey	9/9/14

Determination	Resource	Rationale for Determination	Signature	Date
NP	Wastes (hazardous or solid)	Solid or hazardous wastes not anticipated to be stored, disposed of, handled, or transported. Should solid or hazardous wastes be discovered they should be reported to BLM and the State, if in excess of reportable quantities (RQs). Fertility control medication would be stored in approved containers in a secured manner at the SLFO.	/s/Wanda Grey	10/22/14
NI	Wetlands/Riparian Zones	While springs/streams may be present within the herd area, they are not affected by the proposed action.	/s/ Dylan Tucker	10/23/14
NP	Wild and Scenic Rivers	Resource is not present.	/s/ Ray Kelsey	9/9/14
NP	Wilderness/WSA	Resource is not present.	/s/ Ray Kelsey	9/9/14
NI	Lands with Wilderness Characteristics	No impacts to potential lands with wilderness character. Activity is not surface disturbing.	/s/ Ray Kelsey	9/9/14
PI	Wild Horses and Burros	This project could impact the horses. Mares would be the most impacted as they would be receiving the fertility control drugs. These impacts could be minimized by following the SOPs.	/s/ Tami Howell	8/27/14
NI	Wildlife Excluding Special Status Species	Action does not change forage allocations to wildlife. Wildlife would not be targeted.	/s/ Chris Bryan	10/22/14
NI	Woodland / Forestry	No impact will occur on the existing juniper and pinyon trees. Project would not disrupt woodland harvesting activities.	/s/Rodd Hardy	10/24/14

FINAL REVIEW:

Reviewer Title	Signature	Date	Comments
Environmental Coordinator	/S/ Pamela Schuller	2/13/2015	
Authorized Officer	/S/ Rebecca A. Hotze	2/13/2015	

Appendix B, Map



Appendix C, Standard Operating and Post-Treatment Monitoring Procedures

Standard Operating Procedures for Population-Level Fertility Control Treatments One-Year Liquid Vaccine

The following implementation and monitoring requirements are part of the Proposed Action:

1. PZP vaccine would be administered through darting by trained BLM personnel or collaborating partners only. For any darting operation, the designated personnel must have successfully completed a nationally recognized wildlife darting course and who have documented and successful experience darting wildlife under field conditions.
2. Mares that have never been treated would receive 0.5 cc of PZP vaccine emulsified with 0.5 cc of Freund's Modified Adjuvant (FMA) and loaded into darts at the time a decision has been made to dart a specific mare. Mares identified for re-treatment receive 0.5 cc of the PZP vaccine emulsified with 0.5 cc of Freund's Incomplete Adjuvant (FIA).
3. The liquid dose of PZP vaccine is administered using 1.0 cc Pneu-Darts with 1.5" barbleless needles fired from either Dan Inject® or Pneu-Dart® capture gun.
4. Only designated darters would mix the vaccine/adjuvant and prepare the emulsion. Vaccine-adjuvant emulsion would be loaded into darts at the darting site and delivered by means of a capture gun.
5. Delivery of the vaccine would be by intramuscular injection into the left or right hip/gluteal muscles while the mare is standing still.
6. Safety for both humans and the horse is the foremost consideration in deciding to dart a mare. The Dan Inject® gun would not be used at ranges in excess of 30 m while the Pneu-Dart® capture gun would not be used over 50 m, and no attempt would be taken when other persons are within a 30-m radius of the target animal.
7. No attempts would be taken in high wind or when the horse is standing at an angle where the dart could miss the hip/gluteal region and hit the rib cage. The ideal is when the dart would strike the skin of the horse at a perfect 90° angle.
8. If a loaded dart is not used within two hours of the time of loading, the contents would be transferred to a new dart before attempting another horse. If the dart is not used before the end of the day, it would be stored under refrigeration and the contents transferred to another dart the next day. Refrigerated darts would not be used in the field.

9. No more than two people should be present at the time of a darting. The second person is responsible for locating fired darts. The second person should also be responsible for identifying the horse and keeping onlookers at a safe distance.
10. To the extent possible, all darting would be carried out in a discrete manner. However, if darting is to be done within view of non-participants or members of the public, an explanation of the nature of the project would be carried out either immediately before or after the darting.
11. Attempts will be made to recover all darts. To the extent possible, all darts which are discharged and drop from the horse at the darting site would be recovered before another darting occurs. In exceptional situations, the site of a lost dart may be noted and marked, and recovery efforts made at a later time. All discharged darts would be examined after recovery in order to determine if the charge fired and the plunger fully expelled the vaccine.
12. All mares targeted for treatment will be clearly identifiable through photographs to enable darters and HMA managers to positively identify the animals during the project and at the time of removal during subsequent gathers.
13. Personnel conducting darting operations should be equipped with a two-way radio or cell phone to provide a communications link with the Project Veterinarian for advice and/or assistance. In the event of a veterinary emergency, darting personnel would immediately contact the Project Veterinarian, providing all available information concerning the nature and location of the incident.
14. In the event that a dart strikes a bone or imbeds in soft tissue and does not dislodge, the darter would follow the affected horse until the dart falls out or the horse can no longer be found. The darter would be responsible for daily observation of the horse until the situation is resolved.

Monitoring and Tracking of Treatments

1. At a minimum, estimation of population growth rates using helicopter or fixed-wing surveys will be conducted before any subsequent gather. During these surveys it is not necessary to identify which foals were born to which mares; only an estimate of population growth is needed (i.e. # of foals to # of adults).
2. Population growth rates of herds selected for intensive monitoring will be estimated every year post-treatment using helicopter or fixed-wing surveys. During these surveys it is not necessary to identify which foals were born to which mares, only an estimate of population growth is needed (i.e. # of foals to # of adults). If, during routine HMA field monitoring (on-the-ground), data describing mare to foal ratios can be collected, these data should also be shared with the NPO for possible analysis by the USGS.
3. A PZP Application Data sheet will be used by field applicators to record all pertinent data relating to identification of the mare (including photographs if mares are not freeze-marked) and date of treatment. Each applicator will submit a PZP Application Report and accompanying narrative and data sheets will be forwarded to the NPO (Reno, Nevada). A copy of the form and data sheets and any photos taken will be maintained at the field office.
4. A tracking system will be maintained by NPO detailing the quantity of PZP issued, the quantity used, disposition of any unused PZP, the number of treated mares by HMA, field office, and State along with the freeze-mark(s) applied by HMA and date.

Appendix D, PZP Mixing Procedures

Mixing Vaccine and Adjuvant

Equipment Needed

2 5.0 cc glass syringes

1.5 inch needle

vial of adjuvant

vial of PZP

Luer-Lok connector

1.0 cc C-type or P-type Pneu-Dart dart with 1.5 inch barbless needle

Procedures

1. Place the 1.5 inch needle on a glass syringe
2. Draw out 0.5 cc of adjuvant
3. Using the same syringe, draw up the 0.5 cc of PZP
4. Holding the syringe very carefully (because the plunger can slip out), take off the needle and attach the syringe to the second syringe using the Luer-Lok connector (have the Luer-lok connector already attached to the second syringe).
5. Push the PZP-adjuvant mixture back and forth through the two syringes 100 times. The resulting emulsion will become thick and look white. **THIS PROCEDURE IS VERY IMPORTANT AND IS RELATED TO THE PRESENTATION OF THE ANTIGEN AND THE SUBSEQUENT EFFICACY OF THE VACCINE.**
6. Make sure all the emulsion is in one syringe.
7. Holding the first syringe very carefully (the one with the emulsion), remove the second syringe, leaving the Luer-Lock on the first syringe.
8. If you are loading a 2.0 or 3.0 mL plastic syringe for hand-delivery, attach the glass syringe to the plastic syringe and inject the PZP emulsion in to the plastic syringe. It is helpful if you move the plunger of the plastic syringe just a bit before pumping the PZP emulsion into it. After loading the plastic syringe, disconnect the glass syringe and connect an 18g. 1.5 inch needle on the plastic syringe.

Appendix E, Data Sheet

HORSE IMMUNOCONTRACEPTION DATA SHEET

HORSE MANAGEMENT AREA: Onaqui Mountain HMA

HORSE IDENTIFICATION NUMBER/NAME: _____

HORSE COLOR: _____

OTHER MARKINGS/BRANDS: _____

Inoculation Dates	PZP Dose (μg) ³	Adjuvant	Delivery System ⁴	Injection Site ⁵	Vaccine Lot Number
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POST-INOCULATION REPRODUCTIVE HISTORY (Diagnosed pregnancies and/or births) DESCRIBE ANY:

³ Standard dose is 100 μg with raw vaccine

⁴ Pneu-Dart unless otherwise noted

⁵ Left or right hip

3. Additional remarks: